West Nile Virus and Other Mosquito-borne Disease Report

August 5 – August 11, 2018 (Report Week 32)

West Nile Virus

Canada

Human

As of August 11, 2018, the Public Health Agency of Canada has been informed of five clinical cases of West Nile virus (WNV): four in Ontario and one in Manitoba. Of these, three (60%) have been classified as WNV neurological syndrome and two (40%) are unspecified. No deaths have been reported. In addition, two WNV asymptomatic infections in Ontario were reported.

Mosquito

To date (week 32), the PHAC has been notified of 10,091 mosquito pools tested for WNV: Saskatchewan (563), Manitoba (1,565), Ontario (7,072) and Québec (891]). Of these, a total of 285 (2.82%) have tested positive for WNV: thirty-three in Saskatchewan, 129 in Manitoba, 115 in Ontario, and eight in Québec.

Wild Bird

To date (week 32), 37 out of 58 dead wild birds have tested positive for WNV by the Canadian Wildlife Health Cooperative (CWHC) and Manitoba Agriculture: thirteen in Manitoba, seven in Québec, two in Saskatchewan, and fifteen in Ontario. In addition, four live birds in Québec have been tested positive for WNV by the University of Montréal.

Equine

The Canadian Food Inspection Agency (CFIA) has reported nine horses with WNV infection in the following three provinces: Alberta (5), Saskatchewan (2), and Manitoba (2).

United States and U.S. territories

As of August 7, 106 human cases of WNV have been reported to the US Centers for Disease Control and Prevention (CDC). Of these, sixty-two (58%) were classified as neuroinvasive disease and forty-four (42%) as non-neuroinvasive disease. Four deaths have been reported. In addition, forty-four presumptive viremic blood donors have been identified.

Europe and Neighboring Countries

As of August 9, 2018, 231 human cases of West Nile fever have been reported to the European Centre for Disease Prevention and Control. Seventeen deaths have been reported. (Weekly updates: 2018 West Nile fever transmission season)

Other Mosquito-borne Diseases in Canada

Eastern Equine Encephalitis virus

No human cases of Eastern Equine Encephalitis virus (EEEV) have been reported to the PHAC, since the start of the 2018 season. The CFIA has reported four horses testing positive for EEEV, all in Ontario.

California Serogroup virus

In surveillance week 32, no human cases/exposures of California serogroup virus were diagnosed by the National Microbiology Laboratory in the PHAC.

FIGURE 1: Geographic distribution of WNV human clinical cases and asymptomatic infections in Canada, 2018

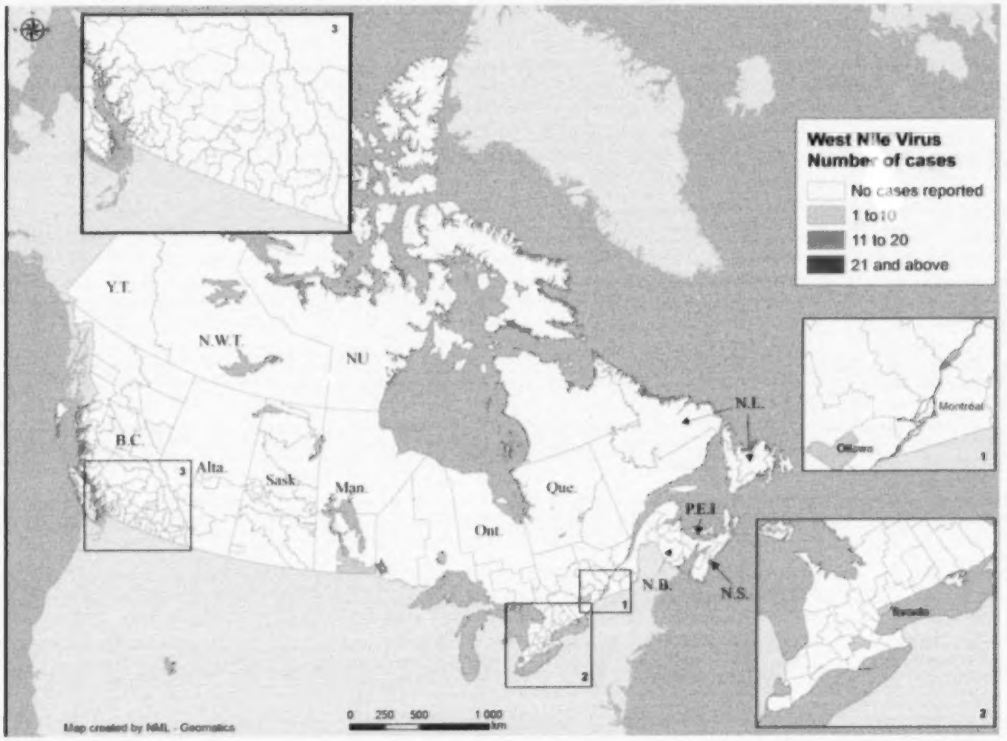
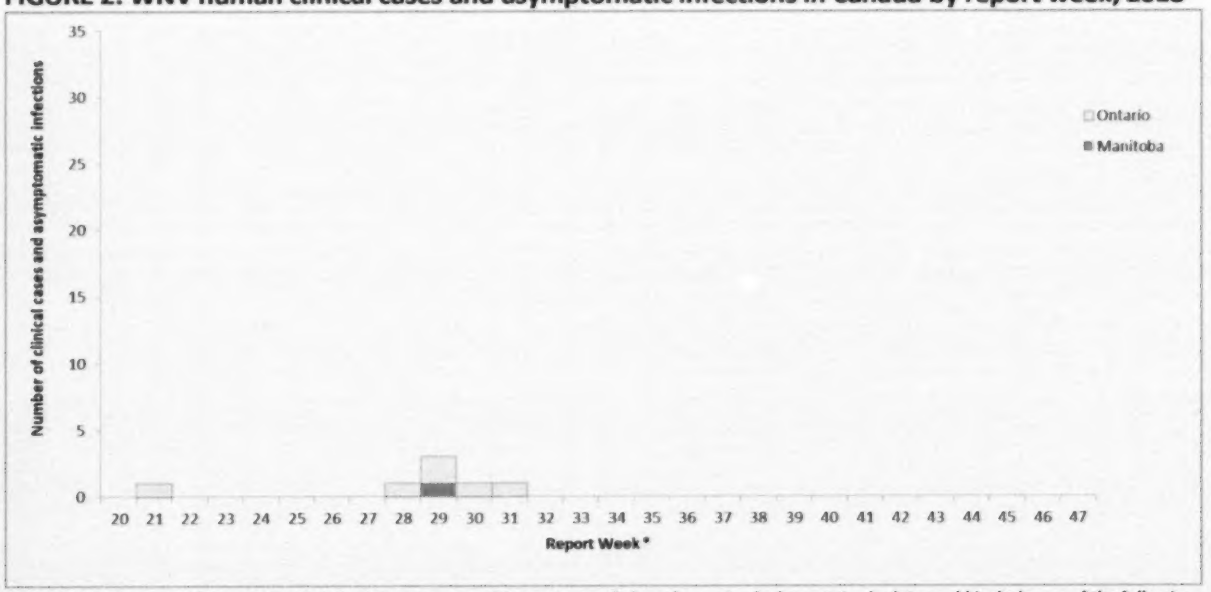
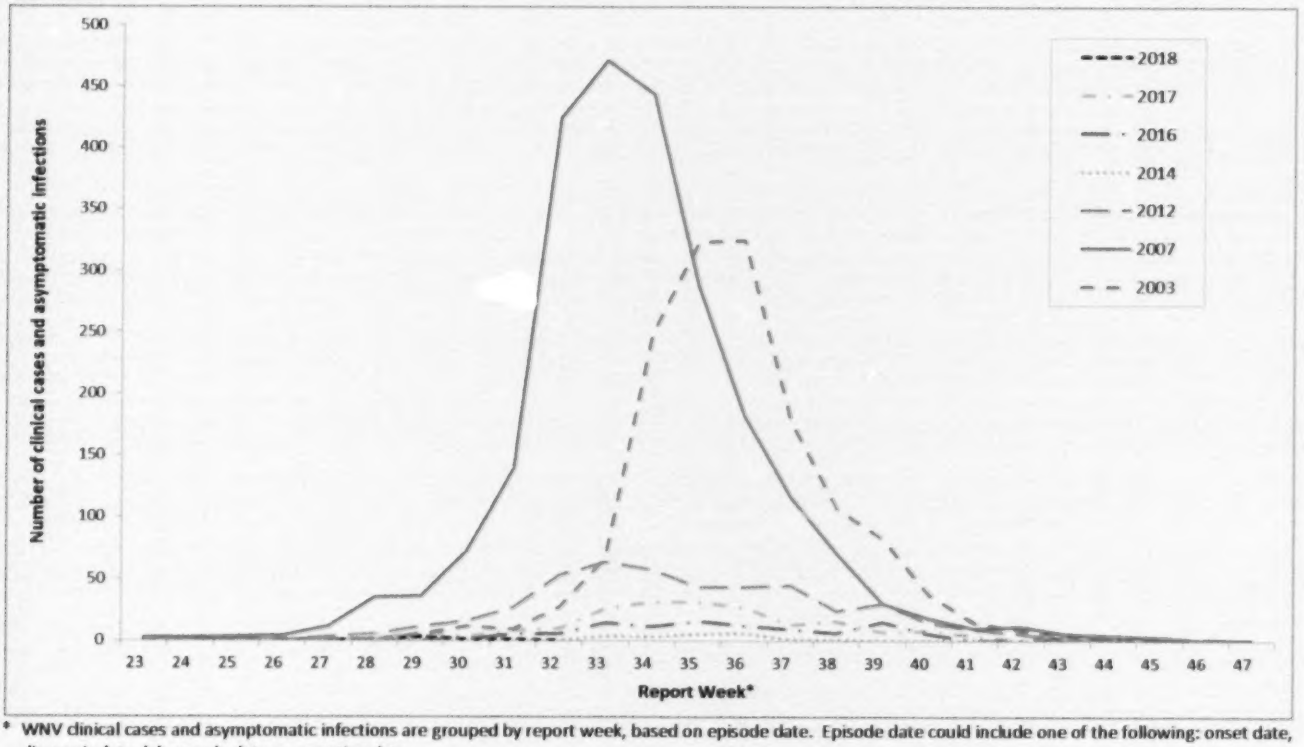


FIGURE 2: WNV human clinical cases and asymptomatic infections in Canada by report week, 2018



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

FIGURE 3: WNV human clinical cases and asymptomatic infections for selected years by report week, in Canada



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

TABLE 1: WNV human clinical cases and asymptomatic infections in Canada by report week and year to date, 2018

Province/Territory	Clinical Cases				Total travel-related cases[2]	Total asymptomatic infections[3]
	Neurological syndrome	Non-neurological syndrome	Unclassified/ Unspecified	Total clinical cases[1]		
Week 32: August 5 to August 11, 2018						
British Columbia	0	0	0	**0**	0	0
Alberta	0	0	0	**0**	0	0
Saskatchewan[4]	0	-	-	-	-	-
Manitoba	0	0	0	**0**	0	0
Ontario	0	0	0	**0**	0	0
Québec	0	0	0	**0**	0	0
Newfoundland and Labrador	0	0	0	**0**	0	0
Prince Edward Island	0	0	0	**0**	0	0
Nova Scotia	0	0	0	**0**	0	0
New Brunswick	0	0	0	**0**	0	0
Yukon Territory	0	0	0	**0**	0	0
Northwest Territory	0	0	0	**0**	0	0
Nunavut	0	0	0	**0**	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**
Year to date: January 1 to August 11, 2018						
British Columbia	0	0	0	**0**	0	0
Alberta	0	0	0	**0**	0	0
Saskatchewan[4]	0	-	-	-	-	-
Manitoba	1	0	0	**1**	0	0
Ontario	2	0	2	**4**	2	2
Québec	0	0	0	**0**	0	0
Newfoundland and Labrador	0	0	0	**0**	0	0
Prince Edward Island	0	0	0	**0**	0	0
Nova Scotia	0	0	0	**0**	0	0
New Brunswick	0	0	0	**0**	0	0
Yukon Territory	0	0	0	**0**	0	0
Northwest Territory	0	0	0	**0**	0	0
Nunavut	0	0	0	**0**	0	0
Total	**3**	**0**	**2**	**5**	**2**	**2**

[1] Total clinical cases are the sum of confirmed and probable: WNV neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

[2] Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or WNV asymptomatic infections.

[3] Satisfies WNV diagnostic test criteria in the absence of clinical criteria. This category could include asymptomatic blood donors whose blood is screened using a nucleic acid amplification test, by blood operators (i.e. Canadian Blood Services or Hema-Québec) and is subsequently brought to the attention of public health officials. Blood operators in Canada perform a supplementary WNV specific nucleic acid amplification test following any positive donor screen test result.

[4] Saskatchewan provides counts of WNV neurological syndrome cases only.

TABLE 2: WNV mosquito surveillance* in Canada, as of August 4, 2018

Province	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Saskatchewan	33	563	5.86
Manitoba	129	1,565	8.24
Ontario	115	7,072	1.63
Québec	8	891	0.90
Total	**285**	**10,091**	**2.82**

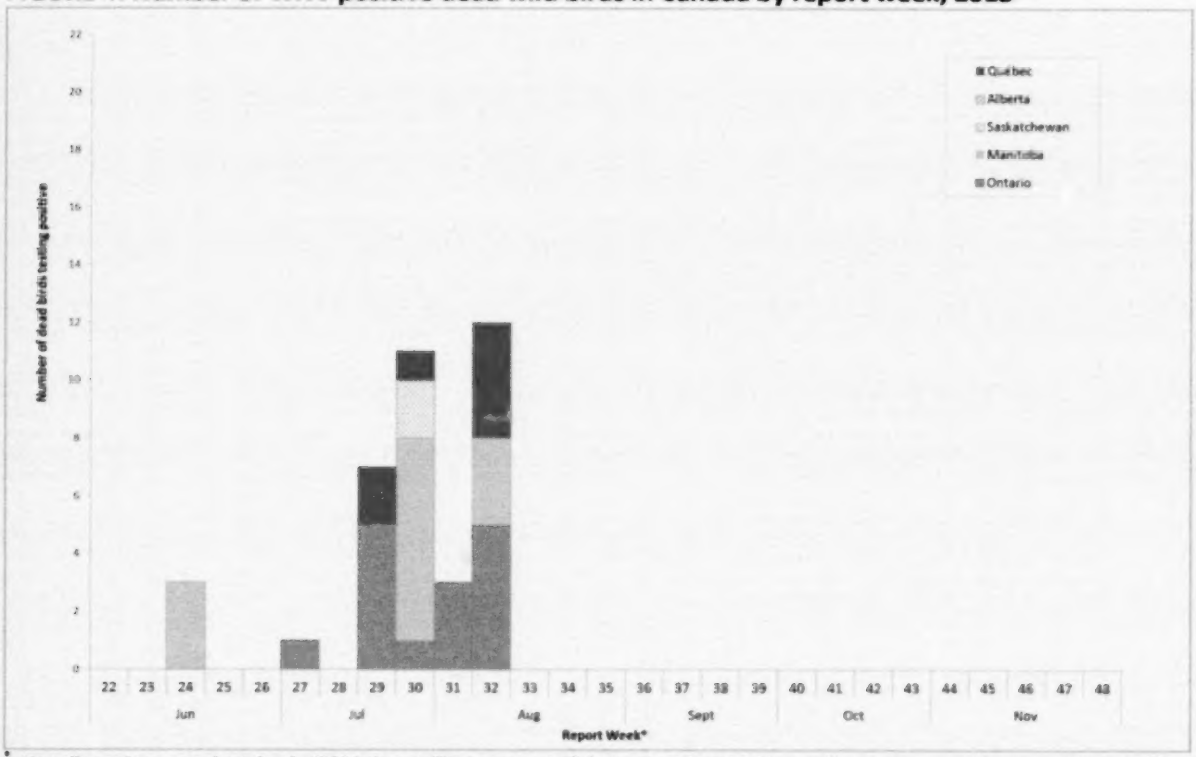
*Mosquito surveillance data is reported by the following four provinces: Québec, Ontario, Manitoba, and Saskatchewan.

TABLE 3: Total number of WNV mosquito pools tested by report week and by province/ territory, 2018‡

Province	Report Week											
	22	23	24	25	26	27	28	29	30	31	32	Total
Saskatchewan	0	15	18	17	45	54	79	95	93	92	55	**563**
Manitoba	15	39	89	107	124	122	241	240	247	169	172	**1,565**
Ontario	0	0	0	0	842	955	1,024	963	1,073	1,059	1,156	**7,072**
Québec	0	69	77	105	105	108	109	109	110	99	-	**891**
Total	15	123	184	229	1,116	1,239	1,453	1,407	1,523	1,419	1,383	**10,091**

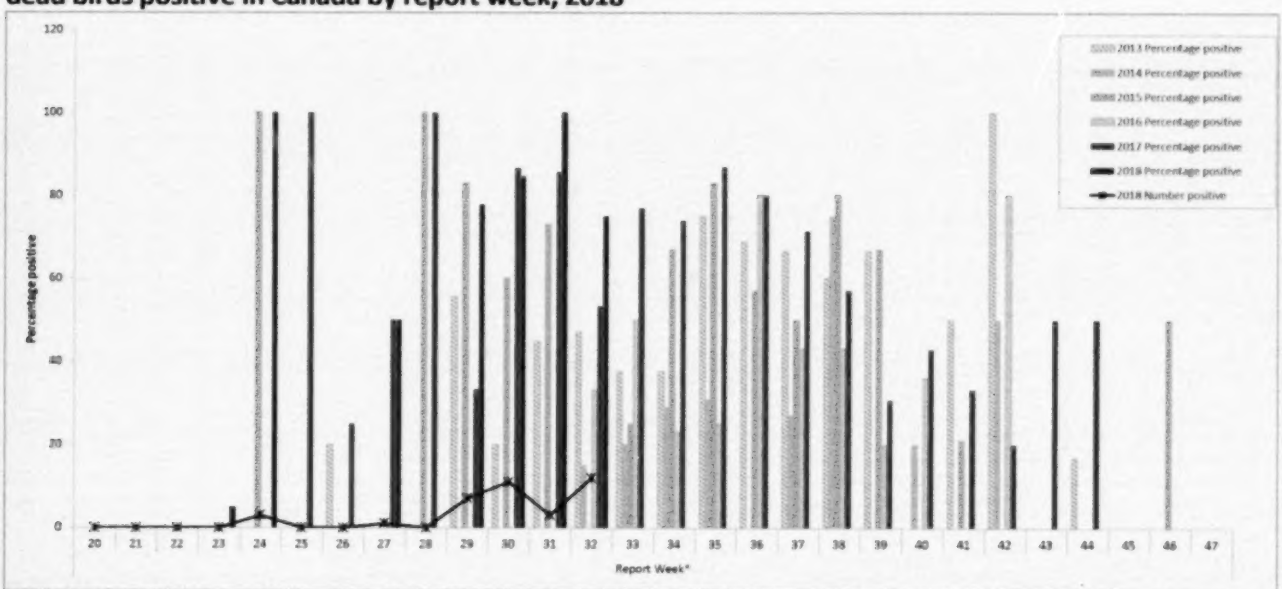
‡ Detailed West Nile Virus mosquito surveillance data can be accessed through provincial/territorial websites.

FIGURE 4: Number of WNV positive dead wild birds in Canada by report week, 2018*



* Not all provinces conduct dead wild bird surveillance as part of their respective WNV surveillance program. However, WNV positive dead wild birds may be identified through the National Wildlife Disease Surveillance Program, CWHC or some provinces.

FIGURE 5: Percentage of dead wild birds positive for WNV by report week in 2012-2018 and number of dead birds positive in Canada by report week, 2018*



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